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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/474,634	12/29/1999	FU-JYA DANIEL TSAI	11302-0530	2504

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ATLANTA, GA 30309

EXAMINER

PRATT, CHRISTOPHER C

ART UNIT	PAPER NUMBER
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1771

DATE MAILED: 10/04/2002

14

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Applicati n No.

09/474,634

Applicant(s)

TSAI ET AL.

Examiner

Christopher C. Pratt

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-- The MAILING DATE of this communication appears on the cover sheet with the c rresp ndence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM  
THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 22 August 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-15 and 17-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15 and 17-23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

***Response to Amendment***

1. Applicant's amendments and accompanying remarks filed 8/22/02 have been entered and carefully considered. Applicant's amendment is found to overcome the prior art rejection previously set forth. Despite this advance, the amendments are not found to patentably distinguish the claims over the prior art and Applicant's arguments are not found persuasive of patentability for reasons set forth herein below.

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-15 and 17-23 are rejected under 35 U.S.C. 103(a) as being obvious over Tsai et al (5698322) in view of Tsai et al (5976694).

The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed

in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). For applications filed on or after November 29, 1999, this rejection might also be overcome by showing that the subject matter of the reference and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person. See MPEP § 706.02(I)(1) and § 706.02(I)(2).

Tsai ('322) teaches applicant's claimed binder fiber, as set forth in the previous two actions. Tsai ('322) also teaches said fibers as a mixture of fibers in a nonwoven, but fails to teach the other fibers that comprise said mixture (col. 9, lines 31-32).

Tsai ('694) is concerned with the creation of a biodegradable nonwoven fabric. Tsai ('694) teaches a conjugate binder fiber comprising PLA and a second cellulose acetate fiber (col. 6, lines 52-54). It would have been obvious to a person having ordinary skill in the art to utilize '694's secondary fiber in the nonwoven fabric of '322. Such a modification would have been motivated by the desire to impart strength to the fabric of Tsai ('322).

Tsai ('694) also teaches convection bonding below 160 degrees Celsius (col. 12, lines 33-35). It would have been obvious to utilize this method of heating in order to fill in the gaps of Tsai ('322)'s teachings and successfully practice its invention.

With respect to applicant's claimed melting/bonding temperature of said binder fibers, this property is inherent in the polymer. Tsai teaches applicant's claimed range of melting points. Therefore, it would have been obvious to bond said fibers within 2-10 degrees above or below the melting point based on the desired production speed. Altering the bonding temperature also allows for optimization of the strength and disintegratability properties of the web.

With respect to applicant's claimed permeability and void volume, it is the examiner's position that these properties are inherent in the web created by the combination set forth above because said combination teaches the same materials, structure, and method of production claimed by applicant.

4. Claims 1-15 and 17-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsai et al (5698322) in view of Takeda et al (EP 0801172) and either Handbook of Technical Textiles (HTT) or Thermal Bonding of Nonwoven Fabrics (TBNF).

As set forth in the previous two actions Tsai teaches applicant's claimed sheath/core binder fibers. Tsai ('322) also teaches said fibers as a mixture of fibers in a nonwoven, but fails to teach the other fibers that comprise said mixture (col. 9, lines 31-32). Tsai also teaches said binder fibers to be thermally bonded, but is silent with respect to a particular method of thermal bonding (col. 3, lines 55-56).

Takada is concerned with the creation of a biodegradable nonwoven web. Takada teaches a combination of PLA binder fibers (p. 3, line 4 and 57-58) and

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cellulose acetate fibers (p. 3, line 39) in amounts anticipating applicant's claimed amounts (p. 3, line 42). It would have been obvious to a person having ordinary skill in the art to form the mixture taught by Tsai with Takada's cellulose acetate fiber. Such a combination would have been motivated by the desire to increase the liquid absorbency, impregnation retention, and tensile strength of Takada's fibers (p. 3, lines 36 and 47).

Tsai teaches said binder fibers can be bonded at a temperature below 145 degrees, but does not teach a method of effectuating said bonding (col. 6, line 48). HTT and TBNF both teach the extremely common and well-known method of through-air bonding (p. 143 and 1, respectively). It would have been obvious to bond the fabric of Tsai by a through-air bonding method. Such a modification would have been motivated by the desire to fill in the gaps of Tsai's teachings and produce a bulky, open, soft, strong, extensible, breathable, and absorbent nonwoven material.

With respect to applicant's claimed melting/bonding temperature of said binder fibers, this property is inherent in the polymer. Tsai teaches applicant's claimed range of melting points. Therefore, it would have been obvious to bond said fibers within 2-10 degrees above or below the melting point based on the desired production speed. Altering the bonding temperature also allows for optimization of the strength and disintegratability properties of the web.

With respect to applicant's claimed permeability and void volume, it is the examiner's position that these properties are inherent in the web created by the

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combination set forth above because said combination teaches the same materials, structure, and method of production claimed by applicant.

5. Claims 1-15 and 17-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takeda et al (EP 0801172) in view of Tsai et al (5698322) and either Handbook of Technical Textiles (HTT) or Thermal Bonding of Nonwoven Fabrics (TBNF).

Takeda is concerned with the creation of a water-disintegrable nonwoven web comprising a mixture of PLA binder fibers and cellulose acetate fibers. Takeda teaches said binder fiber to comprise a mixture of various PLA polymers but does not seem to teach applicant's claimed sheath/core configurations (p. 3, lines 26-28).

Tsai is also concerned with the creation of a water-disintegrable nonwoven web comprising a mixture of fibers including PLA binder fibers. Tsai teaches applicant's claimed binder fibers. It would have been obvious to a person having ordinary skill in the art to utilize Tsai's fibers in the web of Takeda. Such a combination would have been motivated by the desire to provide Takeda's web with increased strength from a binder that is easily processed and does not undergo severe shrinkage.

Neither reference teaches a method of bonding said fibers. It would have been obvious to utilize through-air bonding taught by HTT and TBNF for the reasons set forth above.

Applicant's claimed properties would be inherent for the reasons set forth above.

***Conclusion***

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher Pratt whose telephone number is 703-305-6559. The examiner can normally be reached on Monday - Friday from 7 am to 4 pm.

If attempts to reach the examiner are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on 703-308-2414. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

Christopher C. Pratt  
September 29, 2002



CHERYL A. JUSKA  
PRIMARY EXAMINER